Abstract of the Disclosure

PASSIVE TIRE PRESSURE SENSOR AND METHOD

A surface acoustic wave device includes a micro-machined pressure transducer for monitoring tire pressure. The device is configured having a micro-machined cavity that is sealed with a flexible conductive membrane. When an external tire pressure equivalent to the cavity pressure is detected, the membrane makes contact with ridges on the backside of the surface acoustic wave device. The ridges are electrically connected to conductive fingers of the device. When the detected pressure is correct, selected fingers on the device will be grounded producing patterned acoustic reflections to an impulse RF signal. When the external tire pressure is less than the cavity reference pressure, a reduced reflected signal to the receiver results. The sensor may further be constructed so as to identify itself by a unique reflected identification pulse series.